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PROTECTIVE GOGGLES

Abstract:

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1431954 Goggles METRO PLASTICS PTY Ltd 20 Aug 1973 [21 Aug 1972] 39201/73 Heading G2J A pair of goggles e.g. for swimming and diving comprises eye-pieces of watertight construction and having a peripheral flanged surface 2 adapted to conform in watertight manner to the skin surface surrounding the eye and lying below the wearer's eyebrow and to extend from the inner corner of the eye to the side of the wearer's head, the eye-piece when in position exhibiting a transparent surface having the same contour as the wearer's forehead in the eyebrow region and running across the face approximately coextensive with the eyebrow. The eye-pieces are joined by a bridging portion 4 and a resilient head band. Each eye-piece may be a one-piece transparent plastics moulding.

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(54) PROTECTIVE GOGGLES

(71) We, METRO PLASTICS PTY. LTD. of 10 Bibby Court, Moorabbin, in the State of Victoria, Commonwealth of Australia, a Company incorporated under the laws of the said State of Victoria, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to protective goggles, especially those for use by swimmers in chlorinated pools.

Goggles which have previously been proposed have fallen into two main categories: face masks which include a transparent viewing surface extending over the area of both eyes, and goggles which have individual lens surfaces for each eye. The latter have been preferred because of their small convenient size, thus having less water drag.

These goggles have taken the form of a flat elliptical glass as the face plate and side walls extend perpendicularly away to form the goggle casing. The sidewalls which are usually transparent, extend back to a flanged peripheral surface which is contoured to approximate the swept back curvature in the region of the eye from the nose to the side of the head. This flanged surface was normally covered to provide an effective seal with the skin to render the goggle cavity, above the eye, airtight. The two casings are joined across the bridge of the nose by a flexible band and a similar band is used to encircle the head.

Goggles of this type have two serious disadvantages. They can be easily dislodged from their position because of the non streamlined surface and because when viewed from above the head of the wearer the surface protrudes beyond the profile of the eyebrow region of the forehead of the wearer's face. A further disadvantage is distortion caused by the right-angled junction of the side walls and the face of the goggles in the case where the goggle sidewalls are transparent. This distortion is particularly present when the eyes are directed to a point not directly in front of the wearer.

These problems have not been solved by any alternative construction and persons using the goggles have had to adapt to the disadvantages inherent in their construction to obtain satisfactory results.

The present invention, however, provides a pair of goggles particularly for swimming and diving, comprising two eyepieces, each eyepiece being of water-tight construction and having a peripheral flanged surface adapted to conform in watertight manner to the skin surface surrounding the eye and lying below the wearer's eyebrow and to extend from the inner corner of the eye to the side of the wearer's head, the eyepiece, when in position exhibiting a transparent surface having substantially the same contour as the wearer's forehead in the eyebrow region and running across the face approximately coextensive with the eyebrow, parts of the eyepieces adjacent to the wearer's nose being joined by a bridging portion and parts of the eyepieces adjacent to the side of the wearer's head being connected by a resilient band for attachment of the goggles on the head of the wearer.

This design thus provides goggles which conform to the general shape of the face and thus present a minimum of drag when in use. The possibility of dislodging of the goggles, such as by diving into water, is therefore reduced.

Each eyepiece is preferably moulded in one piece with rounded edges at the junction of the transparent surface and side walls extending from the peripheral flange. The height of the side walls is conveniently greatest at that part of each eyepiece which is positioned adjacent to the bridge of the nose of the wearer and decreases in height toward the other side of the eyepiece which lies adjacent to the side of the wearer's head.

The peripheral flange of each eyepiece may be lined with a resilient material, such as foamed rubber, to effect a more reliable watertight seal between the skin and the eyepiece. Attachment means are conveniently located at the two lateral extremities of each eyepiece to accommodate flexible securing bands, so that they can be secured

in place on the wearer's head in known manner.

The invention will be described, by way of example, in more detail having reference to the accompanying drawing in which:

Figure 1 is a front view of the goggles,

Figure 2 is a plan view of the goggles,

Figure 3 is a rear view of the goggles,

Figure 4 is a side view of the goggles,

Figure 5 is a sectional side view taken on line 5—5,

Figure 6 is a sectional plan view taken on line 6—6; and

Figure 7 is a plan view partly in section of a modified form of goggles.

The goggles of the present invention are specifically adapted for use during swimming so that water is substantially prevented from coming into contact with the swimmer's eyes but which are comfortable to wear and are not easily dislodged from the wearer's face.

Referring to the drawing, a pair of eyepieces 1 are provided each of watertight construction connected together by a flexible bridging strap 4. Each eyepiece includes a face-engaging flange portion 2 having adhered thereto a sealing member 3 such as sponge rubber, foam material or other suitably soft material for watertight sealing contact with the face of a wearer. The bridging strap 4 is provided with ribs 5 for tight engagement in a slotted lug 6 of each eyepiece. More than the two ribs 5 shown can be provided to permit adjustment of the distance separating the two eyepieces. Slots 7 are provided at the opposite ends of the eyepieces for attachment to a band (not shown) suitable for securing the goggles to the head of a wearer.

The depth of each eyepiece is such as not to project appreciably beyond an eyebrow of the wearer. Ideally, with the goggles in place, the front transparent surface thereof should be flush with the contour of the wearer's forehead in the eyebrow region so that there is a smooth continuation of the forehead contour down the wearer's face over the eyes, whereby dislodgment of the goggles by force of water is resisted, and a more streamlined surface is presented by the face to the flow of water. Furthermore, each eyepiece is curved away from the bridging strap 4 so as to smoothly merge with the side of the head of the wearer.

Referring to Figure 7, in which like reference numerals indicate like parts, modified eyepiece configurations are shown in which

the surface of each transparent eyepiece 10 is comprised of at least two flat portions 11 and 12. The flat portions are preferably formed by plastics moulding techniques with the junction outside the direct line of vision of the wearer, thus avoiding distortion of vision. The overall configuration of the modified goggles is similar to those previously described insofar as in use the flat portions 11 and 12 are substantially flush with the contour of the wearer's forehead in the eyebrow region to resist dislodgment in the water.

WHAT WE CLAIM IS:—

1. A pair of goggles particularly for swimming and diving, comprising two eyepieces, each eyepiece being of water-tight construction and having a peripheral flanged surface adapted to conform in watertight manner to the skin surface surrounding the eye and lying below the wearer's eyebrow and to extend from the inner corner of the eye to the side of the wearer's head, the eyepiece, when in position exhibiting a transparent surface having substantially the same contour as the wearer's forehead in the eyebrow region and running across the face approximately coextensive with the eyebrow, parts of the eyepieces adjacent to the wearer's nose being joined by a bridging portion and parts of the eyepieces adjacent to the side of the wearer's head being connected by a resilient band for attachment of the goggles on the head of the wearer.

2. Goggles as claimed in claim 1 wherein the bridging portion is so constructed that the distance between the eyepieces is adjustable.

3. Goggles as claimed in claim 1 or 2 in which each eyepiece is a one-piece transparent plastics moulding.

4. A pair of goggles substantially as hereinbefore described with reference to, and as illustrated in, Figures 1 to 6 of the accompanying drawing.

5. A pair of goggles substantially as hereinbefore described with reference to, and as illustrated in, Figure 7 of the accompanying drawing.

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